

Appl. N. 09/388,265
Amdt. dated October 22, 2003
Reply to Office Action of May 22, 2003

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-7 canceled.

1 8. (Currently amended) An ohmic contact in a semiconductor device which is formed on
2 a p-type semiconductor material, the ohmic contact including a layer of p-type semiconductor
3 oxide and metal in a condition of mixed morphology, wherein both the p-type semiconductor
4 oxide and the metal connect the p-type semiconductor material.

1 9. (previously presented) The ohmic contact as claimed in claim 8, wherein the p-type
2 semiconductor oxide includes a single oxide.

1 10. (previously presented) The ohmic contact as claimed in claim 8, wherein the p-type
2 semiconductor oxide includes a mixture of various oxides.

1 11. (previously presented) The ohmic contact as claimed in claim 8, wherein the p-type
2 semiconductor oxide includes a solid solution of various oxides.

1 12. (previously presented) The ohmic contact as claimed in claim 8, wherein the
2 semiconductor material is p-type $\text{Al}_x\text{Ga}_y\text{In}_z\text{N}$, and $0 < x, y, z < 1$, and $x + y + z = 1$.

1 13. (previously presented) The ohmic contact as claimed in claim 8, wherein the p-type
2 semiconductor oxide is one of NiO, MnO, FeO, Fe_2O_3 , CoO, CrO, Cr_2O_3 , CrO_2 , CuO, Cu_2O ,
3 SnO, Ag_2O , CuAlO_2 , SrCu_2O_2 and PdO.

1 14. (previously presented) The ohmic contact as claimed in claim 8, wherein the metal is
2 Au, Pt, Rh, Ru, or Ir.

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1 15. (previously presented) The ohmic contact as claimed in claim 12, wherein the
2 semiconductor material is p-type GaN.

1 16. (currently amended) An ohmic contact in a semiconductor device, which is formed
2 on a p-type semiconductor material, the ohmic contact comprising a layer of p-type
3 semiconductor oxide and a conductive layer, wherein the layer of p-type semiconductor oxide is
4 located on the p-type semiconductor material, and the conductive layer is located on the layer of
5 p-type semiconductor oxide.

1 17. (previously presented) The ohmic contact as claimed in claim 16, wherein the
2 semiconductor material is p-type $\text{Al}_x\text{Ga}_y\text{In}_z\text{N}$, and $0 < x, y, z < 1$, and $x + y + z = 1$.

1 18. (previously presented) The ohmic contact as claimed in claim 16, wherein the p-type
2 semiconductor oxide is one of NiO, MnO, FeO, Fe_2O_3 , CoO, CrO, Cr_2O_3 , CrO_2 , CuO, Cu_2O ,
3 SnO, Ag_2O , CuAlO_2 , SrCu_2O_2 , LaMnO_3 , $\text{YBa}_2\text{Cu}_4\text{O}_8$ and PdO.

1 19. (previously presented) The ohmic contact as claimed in claim 16, wherein the layer
2 of semiconductor oxide includes a single oxide layer.

1 20. (previously presented) The ohmic contact as claimed in claim 16, wherein the layer
2 of semiconductor oxide includes a plurality of layers of oxides of the same conductivity type.

1 21. (previously presented) The ohmic contact as claimed in claim 16, wherein the layer
2 of semiconductor oxide includes a mixture layer of various oxides.

1 22. (previously presented) The ohmic contact as claimed in claim 16, wherein the layer
2 of semiconductor oxide includes a solid solution layer consisting of various oxides.

1 23. (previously presented) The ohmic contact as claimed in claim 16, wherein the
2 conductive layer includes a single metal layer.

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1 24. (previously presented) The ohmic contact as claimed in claim 16, wherein the
2 conductive layer includes a plurality of metal layers.

1 25. (previously presented) The ohmic contact as claimed in claim 16, wherein the
2 conductive layer is a transparent conductive film.

1 26. (previously presented) The ohmic contact as claimed in claim 17, wherein the
2 semiconductor material is p-type GaN.

1 27. (previously presented) The ohmic contact as claimed in claim 25, wherein the
2 transparent conductive film is conductive oxide, including indium-tin oxide, ZnO and ZnO
3 doped with Ga, In, Al or Ce.